

Department of Energy
Review Committee Closeout Report
on the
Mini-Review
of the
TEVATRON RUN II
LUMINOSITY UPGRADES

October 8, 2003

1 Organization

- Organization is solidifying – Fermilab maintains holes that exist are not important to solving today's problems, but could improve responsiveness to operational and upgrade issues (e.g., Tevatron and electron cooling)
- Meetings appear to be effective in communicating priorities, coordinating shut-down and operating activities
- Roles and Responsibilities of Division Headquarters Clarified

1 Management Milestones

- Many recommendations complete and all are in progress
- Manpower issues remain open
 - Difficulty in acquiring senior accelerator experts
 - Have decided not to add accelerator expertise to management team
 - Need to clarify need for increasing Tevatron complex operators

1 Management Highlights

- Coordination of machine studies (more centralized planning)
- More formal reviews of critical issues
- Core management team working very hard and appears to be functioning well
 - Concern these individuals may represent single-point failure nodes (especially Dave McGinnis)

2 Operations

- Performance at the end of FY 03 showed improved consistency.
- New studies strategy looks promising, but it too early to fully evaluate.
- Luminosity optimization strategy is being developed using the Monte Carlo model of the complex.
- Shutdown progress looks very good.

2 Operations

- Response to the operations recommendations:
 - AP3: Alternative proposed but not resolved.
 - AP4: The Monte Carlo model of the complex is being developed and is being used.
 - T4: Written procedures for operators: Human errors are being reviewed at daily operations meeting. Automated controls will be reviewed.

3 Run II upgrade

- Good progress on operational planning to optimize luminosity.
- Work of shut-down is well planned and progressing well.
- FY2004 projection aims for doubling integrated luminosity from pbar increase.
- Turn-on time of ~ 6 weeks after shut-down is ambitious.
- Very good progress on Run II upgrade work and improved planning and scheduling. Awaiting the Recycler commissioning plan.

3 Run II Upgrade

- Generally good response to technical recommendations from July 2003 review.
- Still need to respond to recommendations AP4, AP5 and PS2:
“Develop a comprehensive model of the Collider...” (incl. exploring 18x18 bunches, optimum use of proton source)